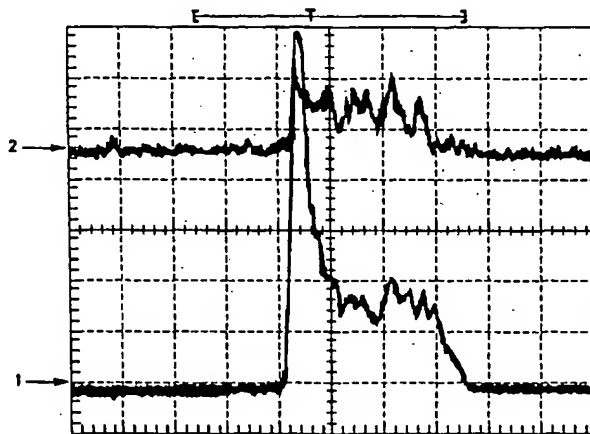


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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : G01N 15/14		(11) International Publication Number: WO 00/36396
A3		(43) International Publication Date: 22 June 2000 (22.06.00)
(21) International Application Number: PCT/US99/29909 (22) International Filing Date: 15 December 1999 (15.12.99) (30) Priority Data: 60/112,280 15 December 1998 (15.12.98) US (71) Applicant: UNION BIOMETRICA, INC. [US/US]; 19 Ward Street, Somerville, MA 02143 (US). (72) Inventors: HANSEN, Peter, W.; 121 Top of Dean Hill Road, P.O. Box 315, Canaan, NY 12029 (US). GERSHMAN, Russell, J.; 19 Ward Street, Somerville, MA 02143 (US). KRAULEDAT, Petra, B.; 121 Top of Dean Hill Road, New York, NY 12029 (US). (74) Agents: KIRCHANSKI, Stefan, J. et al.; Graham & James LLP, 801 S. Figueroa Street, 14th Floor, Los Angeles, CA 90017-5554 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> (88) Date of publication of the international search report: 16 November 2000 (16.11.00)

(54) Title: **AXIAL PATTERN ANALYSIS AND SORTING INSTRUMENT FOR MULTICELLULAR ORGANISMS EMPLOYING IMPROVED LIGHT SCATTER TRIGGER**



(57) Abstract

An improved instrument that consists of an optical analyser and a fluid switch using light scatter and fluorescence means to optically identify and activate fluidic sorting of multicellular organisms from live populations of organisms such as various life cycle stages of *Caenorhabditis elegans*, the larval stages of *Drosophila melanogaster*, and the embryonic stages of *Danio rerio*. In the case where fluorescence from these organisms is very weak, comparatively high levels of electronic noise accompany the electronic signals that are generated by the fluorescence detector and its associated circuitry. Because these weak signals cannot be used to mark the presence of an organism, another, less noisy, signal must be used to gate fluorescence detection. A gate derived from the low-noise light scatter signal from the organism collected over an acceptance angle of at least 20 degrees. Such a light scatter signal unambiguously gates even weak fluorescence signals. These signals can then be correlated with position along the major axis of elongate, multicellular organisms and used as enhanced analysis and sorting parameters.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 99/29909

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N15/14

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IPC 7 G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Date of the actual completion of the international search

10 August 2000

Date of mailing of the international search report

18/08/2000

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INTERNATIONAL SEARCH REPORT

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